Religiosity, materialism, consumer environmental predisposition. Some insights on vegan purchasing intentions in Italy

FRANCESCO RAGGIOTTO[1]

Ph.D. Candidate

Department of Economics and Statistics – University of Udine

Via Tomadini, 30

33100 UDINE

ITALY

Phone: +39 0432-249352

Email: francesco.raggiotto@uniud.it

MICHELA MASON

Associate Professor of Marketing

Department of Economics and Statistics – University of Udine

Via Tomadini, 30

33100 UDINE

ITALY

Phone: +39 0432-249223

Email: michela.mason@uniud.it

ANDREA MORETTI

Full Professor of Marketing

Department of Economics and Statistics – University of Udine

Via Tomadini, 30

33100 UDINE

ITALY

Phone: +39 0432-249237

Email: andrea.moretti@uniud.it

[1] Corresponding author

Religiosity, materialism, consumer environmental predisposition. Some insights on vegan purchasing intentions in Italy

Abstract

This paper explores the effects of environmental predisposition on purchasing intentions. The proposed model considers religiosity as a determinant of consumer environmental predisposition, adopting a multidimensional view entailing both intrinsic and extrinsic religiosity. Further, the effects of materialism are investigated, as it has been recognized as one of the most relevant hampering factors in determining consumer environmental predispositions and behaviors. Such factors appear intimately related, as materialism has been indicated as largely antithetical with respect to religion.

Literature has suggested religiosity to be a key determinant of consumer environmental predispositions and behaviors. This might be even more important for specific, environmentally relevant consumer lifestyles. This work is hence set within vegan consumption. Veganism has been mostly related to specific religious beliefs (like Buddhism) according to which it represents a core component of larger worldviews.

A structural equation model (SEM) is proposed, based on a sample of 842 Italian consumers. Results show that religiosity exerts some effect on consumer environmental predisposition, and that, in turn, such predisposition determines vegan purchasing intentions. A split model is then proposed considering Christian and Buddhist consumers. Results of multigroup analysis show that religious influxes on consumer environmental predispositions might vary according to different religious faiths.

Given the lack of previous empirical research, results of this study require further validation; still, they might provide some insights for managers, as markets related to environmentally-relevant products and services are exhibiting a sustained growth.

Keywords: vegan, materialism, extrinsic religiosity, intrinsic religiosity, ecologically conscious consumer behavior

Introduction

In the last forty years, environmental awareness has increasingly become relevant for consumers (Konuk et al., 2015). Fueled by factors such as extensive media coverage, increasing pressures from environmental groups, and the social impact of major environmental disasters (McIntosh, 1991), consumer awareness and interest about environmental issues (like pollution produced by industrial activities, or by meat production) has brought relevant shifts in individual consumption patterns (Krause, 1993; Chang and Chen, 2013). Accordingly, companies' ability to promote environmentally friendly products and services, as well as effectively communicating sustainability of their production processes, have become key determinants of competitive advantage and market success (McDonald and Oates, 2006; Chen and Chang, 2012).

Several studies have been devoted to conceptualizing consumer environmental predisposition, its major antecedents, and its actual effects on consumer intentions and behaviors. Emphasis has been also given on the extent to which consumer environmental predisposition impacts on actual consumer purchasing intentions and behaviors. Some evidence has suggested that environmental predisposition directly drives consumer behavior towards environmentally friendly products and services (Akehurst et al, 2012). Others have noted that individual environmental predisposition might be not always reflected on actual consumer behavior (Kalafatis, Pollard, East, and Tsogas, 1999; Gardyn, 2003).

Research exploring determinants and obstacles of consumer ethical predispositions, intentions, and behaviors has generally neglected the potential of religiosity (Graafland, 2017); research on environmental predispositions, intentions and behaviors (to be considered within the ethical domain) makes no exception, despite clear suggestions in this sense (Mohd Suki and Mohd Suki, 2015). This lack of attention appears quite surprising, as -especially for some consumption contexts- religiosity

and environmental predispositions both appear powerful determinants of consumer ethical intentions and behaviors, namely environmentally conscious. For instance, environmental predisposition and religiosity appear to significantly determine food consumption choices (Lockie, Lyons, Lawrence, and Mummery, 2002; Mukhtar and Mohsin Butt, 2012). This becomes apparent especially for some alimentary habits and choices like vegetarianism and, even more, veganism (Fox and Ward, 2008).
Specifically, evidence agrees in emphasizing some core determinants of vegetarianism (e.g., health issues, animal welfare concerns, see Hoffman et al., 2013 and Minton et al., 2016). Such evidence suggests both religiosity and environmental concerns as some of the principal determinants of vegetarian consumption choices (Hoffman et al., 2013; Tan et al., 2016). However, interrelations between these determinants are still not clear-cut; they appear instead worth to be investigated, as - especially for some religious faiths- environmental beliefs are likely to be shaped by religious influences (like in Buddhism, see Habito, 2007).
Veganism is considered as an extreme kind of vegetarianism, which prescribes abstention from eating/using animal products and byproducts (Larsson et al., 2003). Regarding vegan consumer behavior, conceptualizations and empirical evidences are widely lacking (Ruby, 2012). However, such market appears not negligible at all both for research and practice, since among consumer markets tied with environmental significances, the market for vegan products is one of the most profitable ones (Radnitz et al., 2015). For instance, the number of products marketed as vegan showed a continuous growth between 2010 and 2015; in 2015, sales of vegan products amounted to 2.22 billion dollars (Statista, 2015).
The widespread diffusion of materialism has been considered as one of the major factors hampering affirmation of consumers' environmentally conscious attitudes, orientations, and behaviors. Materialism can be considered as antithetical both with respect to religiosity and with respect to ecological attitudes and orientations (e.g., Lu, Gursoy, and Del Chiappa, 2016). However, it is worth noting that religiosity is likely to be a relevant determinant of individual materialistic tendencies (Pace, 2013), and of environmental predispositions as well (Davari et al., 2017).
Some theoretical frameworks suggest religious and materialistic values to be potential determinants of consumer ecological attitudes, intentions and behaviors.
For instance, the values-attitudes-behavior hierarchy (VAB, Homer and Kahle, 1988) places values at the base of an individual behavior cognitive hierarchy, which affects attitudes and, in turn, behaviors through value orientation (Kingston, 2016).
Further, the theory of consistency (Peifer and Holbert, 2016) suggests that people seek for consistency between their value beliefs, attitudes and behaviors. Accordingly, individuals embracing pro-environmental values aim to act in an environmentally responsible manner, consistently with their values and beliefs (Nguyen et al, 2016).
Furthermore, religious values have shown some positive links with sustainable attitudes and behaviors, while materialistic values are negatively associated to either sustainable attitudes and behaviors (Chowdhury and Fernando, 2013; Yin et al., 2018).
Consistently with the theoretical assumptions underpinning the relationship between values and attitudes/behavior from theory of consistency (Festinger, 1957) and VAB hierarchy (Homer and Kahle, 1988), this paper pursues two research objectives:

a) addressing the interrelationships between religiosity and environmental consumer predisposition. Research has proposed several measurements of consumer environmental predisposition: among them, Straughan and Roberts' Ecologically Conscious Consumption Behavior (ECCB, 1999) has proved as a popular, sound measurement due to its ability to encompass a wide variety of consumer behaviors (Akehurst et al., 2012; Groening et al., 2018), hence providing a wide picture on consumer general attitude towards environmental issues. Thus, this study will use ECCB to capture general consumer environmental predisposition. Materialism will be considered as well, as a relevant determinant of ECCB, as it has been traditionally considered as a major hampering factor of consumer environmentally conscious predispositions (Lu et al., 2016);

b) addressing the actual link between consumer environmental predispositions and actual environmental purchasing intentions, namely vegan purchasing intentions.

Different religions are likely to establish different prescriptions which, in turn, reverberate differently on individual consumption patterns, choices, and behaviors (Essoo and Dibb, 2004). In this sense, it appears reasonable to expect the proposed relationships to change according to different religious affiliations (Minton and Kahle, 2014). Hence, a split model is thereby provided testing the hypothesized relationships on Christians and Buddhists, as these religious faiths appear to provide -relevant- different prescriptions and general orientations regarding environmental concern. For instance, Christianism appears not to directly address the issue, leaving much to individual will; oppositely, Buddhism directly addresses the issue encouraging an individual everyday life based on the respect of the harmonious coexistence with other, surrounding elements coexisting with the individual (Cooper and James, 2017).
This paper is organized as follows. In the first section, literature about religiosity, materialism, ECCB, and their impacts on vegan purchasing intentions is provided. In the second section, employed methodology is described, considering sample definition, data collection, and measurement instrumentation. The third section of the paper provides description and discussion of findings. The fourth and final section of the paper presents the implications of the study as well as its limitations, and suggests direction for future research.

1. Conceptual framework and hypotheses development

Religiosity

Religiosity is defined as the individual belief in God, and the commitment to behave and act in accordance to the principles which are believed to have been set by God (Weaver and Agle, 2002).
It is quite established (see for instance Culliton, 1949) that religiosity (individual religious commitment) influences several individual behaviors, including business behaviors (Clark and Dawson, 1996), and consumption behaviors (Essoo and Dibb, 2004).
Literature has emphasized the complex nature of religiosity, supporting multidimensional views of the construct (Wilkes et al., 1986; McDaniel and Burnett, 1990; Lindridge, 2005). Accordingly, Allport and Ross (1967) widely validated model (e.g., Vitell, Paolillo, and Singh, 2005, 2006; Minton et al., 2016) proposes the division of religiosity into an intrinsic and an extrinsic dimension. Intrinsic religiosity refers to personal, inner spiritual objectives, while extrinsic religiosity concerns exterior, social-related meanings and objectives of individual religiousness. The extrinsic-intrinsic religiosity distinction suggests important differences at the individual level. For instance, some (see Weaver and Angle, 2002; King and Crowther, 2004) have noted that intrinsically religious people, as true believers, tend to see religion as a goal itself. In contrast, extrinsically religious people have been described as individuals considering religious practices as means to achieve other goals, namely social and personal (Vitell et al., 2005).
According to the multidimensional nature of religiosity, literature has suggested that religiosity may influence consumer behavior in several ways. For instance, religion is a determinant source of core individual values; it is also a deep psychological experience. According to the values-attitudes-behavior hierarchy (VAB, Homer and Kahle, 1988) values (including religious values) exert a key influence on individual consumption attitudes and on consumption behaviors. According to VAB, values are placed at the base of a behavior cognitive hierarchy affecting attitudes and, in turn, behaviors through value orientation (Kingston, 2016).
Further, according to the theory of consistency, individuals seek consistency between their value beliefs, attitudes and behaviors (Peifer and Holbert, 2016).
However, individuals may learn religious behavior from others. In this case, religious actions are likely to be aimed to externally communicate a religious identity; there is wide support in literature

of how individual attitudes and behaviors are influenced by group values, norms, and behaviors (e.g., Bandura, 1991). In other words, social situations also help describing how religion influences consumption attitudes and behaviors.
A multidimensional approach to religiosity appears even more relevant from a consumer ethics perspective. For instance, some studies (see Swinyard et al., 2001; Patwardhan et al., 2012) note that, albeit intrinsic religiosity is a significant driver of religiously relevant behaviors (i.e., ethical behaviors), extrinsic religiosity is not necessarily a predictor of religiously relevant behaviors. This ultimately suggests that different religiosity dimensions (intrinsic or extrinsic) are likely to exert differential effects on consumer ethical behaviors (Minton et al., 2016).

Religiosity and materialism

Religiosity influences societal value systems and behaviors (Weaver and Agle, 2002). Accordingly, religion is likely to influence the emphasis placed on material life. Several studies pointed out that both materialism and religiosity have significant influences on consumer attitudes, values and behaviors (e.g. Rahman et al., 2017; Zamani-Farahani and Musa, 2012).
There are two major approaches to materialism in consumer research: a personality traits-related approach (e.g., Belk, 1985) and values-related approach (e.g., Richins and Dawson, 1992). In this paper the value approach is employed (e.g., Kilbourne and LaForge, 2010), thus considering materialism as a consumer value (Richins and Dawson 1992).
Materialism concerns the centrality of material possessions in individual lives, as well as the acquisition of material possessions itself as the pursuit of life satisfaction and happiness, and the use of material possessions as a benchmark of individual success (Richins and Dawson, 1992). For instance, materialism has been defined as "the individual interest and concern in owning material things and in accumulating wealth and material possessions" (Sirgy, 1998, p. 244).
Historically, religions have considered material passions and possessions as morally condemnable (Belk, Ger, and Askegaard, 2003), encouraging and valuing other virtues such sharing, sacrificing, and giving. Material objects are seen as obstacles to spiritual transcendence (Zimmer, 1993; Rakrachakarn, Moschis, Ong, and Shannon, 2013). Apparently, materialism is likely to contrast religious values, as its motives tend to be antithetical to religious values (Cleveland and Chang, 2009). Hence, a negative relationship between materialism and religion has been generally theorized, as the value consumers seek in religious experiences is likely to be antithetical to the value derivable from material objects (e.g., Rindfleisch et al., 2009).
However, an inverse relationship between religiosity and materialism has been also empirically reported (Burroughs and Rindfleisch, 2002; Bakar et al., 2013). Some have also noted that individual materialism might be influenced by different religious beliefs and commitment (e.g., Wong, Rindfleisch, and Burroughs, 2003). In this sense, differences in consumers materialistic values might derive from different religious affiliations (Rakrachakarn et al., 2013). Yet one of the most influential social scientists, Max Weber, addressed the potential linkages between material possessions/status and religion in his cornerstone work, *The Protestant Ethic and the Spirit of Capitalism* (1905). In his seminal work, Weber (1905) argued that the development of capitalism has been boosted by some religious faiths: Protestantism and Calvinism. Particularly, Weber explained that Calvinism introduced a new kind of morality, which he named as the "spirit of Capitalism". Weber argued that Calvinists considered material wealth and success as indicators of religious faith. Furthermore, material success and ambition were considered as signs of God's favor (Arslan, 2000).
It should be noted that, in other religions, Weber's insights might not hold: for instance, in the case of Buddhism, there is a significant, explicit aversion regarding possession and attachment to material objects, which are seen as some of the major obstacles preventing individuals from reaching enlightment (Minton et al., 2016).
Materialism and religiosity are generally considered antithetical, as the major, underlying motives of materialism (like self-promotion) tend to contrast religious values like spirituality or humility

(Burroughs and Rindfleisch, 2002). Empirical support has been also largely provided on this latter point (Burroughs and Rindfleisch, 2002; Cleveland and Chang, 2009).
The following hypotheses are thereby introduced:

H1: Intrinsic Religiosity has a negative direct effect on materialism
H2: Extrinsic Religiosity has a negative direct effect on materialism

Religiosity and Ecologically Conscious Consumer Behavior
A connection between religion and environmental-related issues, attitudes, and behaviors has been confirmed by an abundant volume of research (see Harper, 2008), which has generated a multidisciplinary field, usually named "religion and ecology", "religion and nature", or "ecoteology" (Jenkins, 2009; Jenkins and Key Chapple, 2011).
Religion and environmentalism have been depicted as being very close to each other; for instance, Harper (2008) noted that religion is "imbued with an ethic of caring-at once interpersonal, social and ecological" (Harper, 2008, p. 7). The field appears quite multifaceted and complex. For instance, literature has identified different theoretical approaches linking religion and environmentalism; the topic is further articulated according to the existence of many religious faiths, each offering unique approaches to environmentalism and ecology (Jenkins & Key Chapple, 2011).
Ecologically Conscious Consumer Behavior (ECCB) refers to a consumer behavioral orientation (Roberts, 1996; Straughan and Roberts, 1999); this measure is able to capture a general and comprehensive predisposition towards an environmentally conscious behavior (Akehurst et al., 2012). Consumers are defined as ecologically conscious if they seek to consume products with the lowest environmental impact (Roberts, 1996).
Most of existing research concerning measures of religiosity and ECCB report a positive relationship (e.g., Kanagy and Willits, 1993; Eckberg and Blocker, 1996; Pepper, Jackson, and Uzzell, 2011; Chowdhury, 2016). However, other influences might intervene as well: values, beliefs, and general worldviews have been identified as relevant determinants in shaping religious influences of ecologically conscious attitudes, beliefs and behaviors (Dietz et al., 1998). For instance, different religious faiths are likely to foster different visions of the world: in this sense, religions might shape beliefs of nature as a resource to be exploited (Wolkomir et al., 1997); alternatively, nature could be seen as an untouchable creation of God (Sherkat and Ellison, 2007).
Evidence quite agrees in suggesting a positive relationship between intrinsic religiosity and environmental attitudes and orientations (Chowdhury, 2016; Pepper et al, 2011). Oppositely, the relationship between extrinsic religiosity and environmental attitudes/orientations appears not clear-cut. From a theoretical standpoint, it has been argued that extrinsic religiosity, as relating more to "external" benefits of religiosity (e.g., social and personal goals), is not a true expression of religious beliefs, and is hence unlikely to positively relate to pro-social behaviors (Chowdhury, 2016). A positive -weak- relationship between extrinsic religiosity and pro-environmental behaviors has been empirically reported (Vitell, Singh, and Paolillo, 2007). This could be justified by a general orientation of extrinsic religious consumers to follow those behaviors generally considered as "positive" and socially rewarded, to reach those external goals towards which extrinsic religiosity itself is aimed (Vitell et al, 2007).
It would be hence reasonable to expect that consumers high in intrinsic religiosity may be more likely to duly follow prescriptions from their religious affiliation, following in this sense sustainable models promoted by their religious doctrines; theoretically, this would fit both with the value-attitudes-behaviors hierarchy, as well as for the value-belief-norm theory (Minton et al., 2016).
However, sustainable lifestyles might be pursued as well by consumers high in extrinsic religiosity. Here, pursuing sustainable behaviors would be directed by the need to follow societal norms and to communicate others a highly socially desirable identity, (i.e., of a sustainable person). This point would find theoretical support both in social identity theory and social cognitive theory (Minton et al., 2016).

From the above discussion the following hypotheses are derived:

H3: Intrinsic Religiosity has a positive direct effect on ECCB
H4: Extrinsic Religiosity has a positive direct effect on ECCB

Materialism and Ecologically Conscious Consumer Behavior

For materialistic individuals, pursuit of happiness passes through the possession of material objects (Richins and Dawson, 1992). As material possessions fuel materialists' satisfaction and well-being, they are likely to give strong emphasis on purchases and consumption; this might even lead to individual proneness to overconsumption (Tilikidou and Delistavrou, 2004). In this sense, concern of materialists regarding consumption of material goods is likely not to sensitize them on the importance of making environmentally responsible purchases (Kilbourne and Pickett, 2008). Value conflict research suggests materialism to be oppositely associated to the value of universalism (Burroughs and Rindfleisch, 2002), which typically relates to environment, equality, and social justice (Hurst et al., 2013). Further evidence associates materialism to self-interest-related values rather than to environment-related values (Grouzet et al., 2005).

Materialistic values are likely to reduce individual concern of consumer-related environmental damage, negatively influencing individual environmental attitudes and orientations (Maio et al., 2009). Some (see Hirsh and Dolderman, 2007) have explicitly postulated a negative relationship between materialistic orientations and ECCB.

Hence:

H5: Materialism has a negative, direct effect on ECCB

ECCB and intentions to purchase vegan products

Vegetarianism refers both to the belief and practice of consuming only foods obtained from the vegetable kingdom (Kleine and Hubbert, 1993; Janda and Trocchia, 2001). The term "vegetarianism" was first introduced in 1847 by the British Vegetarian Society, which embraced and promoted vegetarianism and its related benefits and advantages (Dwyer, 1988).

Individuals might choose to embrace vegetarianism to stay healthier (for instance, losing weight eliminating meat from diet, see Povey, Wellens, and Conner, 2001); some have defined these individuals as "health-oriented vegetarians" (Hoffman et al., 2013). Vegetarian choices might be also motivated by social influences, like embracement of the social movement of vegetarianism (Dietz et al., 1995), or by family influences (Lea and Worsley, 2001).

Vegetarianism driven by ethical concerns is known as "ethical-oriented vegetarianism". In this case, vegetarian choices are mostly driven by specific beliefs, related to animal welfare, and repulsing any form of animal cruelty (Lea and Worsley, 2001). Ethical vegetarianism has been linked to environmental-related concerns, related especially to meat production and its environmental (pollution generated by livestock, see Fox and Ward, 2008). In this sense, some have highlighted that a major, common belief among vegetarians is that a vegetarian diet provides very few harm to the environment (Kalof et al., 1999).

Different religious faiths provide different prescriptions and indications regarding food consumption. Some kinds of food, like meat, are specifically regulated by religions. Recent evidence suggests that individual consumption and production patterns of meat products are strongly regulated by religious beliefs (Heiman et al., 2017). For instance, Kosher rules (for Judaism) as well as Halal rules (for Islam) shape consumption and distribution of meat (Heiman et al, 2017). In this sense, a relevant link between religion and dietary choices excluding meat has been also reported (Tan et al., 2016).

Veganism is considered as an extreme kind of vegetarianism, which extremizes its inspirational principles prescribing individual abstention from eating and using any animal products and by-products (Larsson et al, 2003). Veganism is comprised within the domain of ethical consumption

behavior (Radnitz et al., 2015). There are few theoretical and empirical studies considering motivations driving vegan lifestyles, as well as motivational differences between veganism and vegetarianism. It has been reported that vegan consumption can be ascribable to some motives: animal-related motives (e.g., individual concern for animal welfare, animal rights, and other animal-related aspects), self-related motives (e.g., personal taste, health-related motives), and environment-related motives (e.g., concern about depauperating natural resources, or pollution related to food production) (e.g., Bryman, 2008; Janssen et al., 2016).

Consumer environmental concern does not straightforwardly lead to actual, pro-environmental behaviors. Scholars have emphasized how the ultimate intention to purchase is determined by consumer evaluation of the trade-off between environmental issues and individual consequences of a specific purchase. Ecologically conscious consumers are likely to have clear in mind consequences of their actions, which, in turn, are likely to be voluntarily enacted according to consumers' environmental knowledge and beliefs (Schlegelmilch et al., 1996). Ecologically conscious purchasing intentions refer to consumer readiness to act for the benefit of the environment (Chan, 1999; Akehurst et al., 2012). Regarding vegan consumption choices, individuals express a strong commitment to specific values and beliefs, which carry a strong environmentally relevant significance (e.g., animal rights, and pollution, see Janssen et al., 2016).

Hence:

H6: ECCB has a positive direct effect on Purchasing intentions regarding vegan products.

Figure 1 depicts the conceptual model.

FIGURE 1 ABOUT HERE

2. Methodology

Data

The questionnaire used for data collection was first pre-tested on a sample of 100 inhabitants of an Italian metropolitan city located in the North-Eastern part of the country. The pre-test phase allowed to consider potential issues in the questionnaire. After a proper revision, the final version was administered between April and June 2016, on a random sample of 900 individuals actively involved in their respective religious communities (e.g., attending to services, regularly participating to pilgrimages and/or being part of religious organizations). Of them, 842 were usable responses.

Social desirability might be a relevant issue in those contexts in which "respondents are unwilling to admit certain behaviors or attitudes because they are not considered to be socially acceptable" (Weisberg et al., 1996, p. 87).

Extant research concerning individual religiosity has postulated that, in this setting, respondents might perceive to be subject to social desirability pressures, "leading to an unwillingness to admit to not having acted in a socially approved manner" (Presser and Stinson, 1998, p. 137) (for instance, admitting an extrinsic religious motivation); such pressures might "affect the reporting stage" (Presser and Stinson, 1998, p. 137). A similar point has been raised with regard to materialism (Mick, 1996). In such contexts, it has been noted that the presence of an interviewer might lead respondents to be more susceptible to social desirability issues (Tourangeau and Smith, 1996; Nielsen, 2011). Following recommendations of extant research concerning religion and other, socially-sensitive issues (e.g., Presser & Stinson, 1998), data were collected through self-administered questionnaires.

A group of skilled interviewers directly delivered questionnaires to households, explaining the aims of the research, presenting the questionnaire, and clarifying the meaning of each single question. Respondents were given one week to fill the questionnaire. After a week, the same interviewers collected completed questionnaires.

Questionnaires were administered in two waves, to allow checking for non-response bias.
T-test statistics of early respondents and late respondents were compared, with respect to variables potentially subject to social desirability issues (i.e., intrinsic and extrinsic religiosity, materialism). Results of these comparisons returned no significant differences, supporting the lack of non-response bias.
Appropriate measures were adopted to avoid method biases reported by Podsakoff et al., 2003. Evaluation apprehension and social desirability biases were reduced reassuring respondents about the fact that there were no right or wrong answers. Respondents were explicitly asked to answer questions honestly. Questions were randomized; finally, during data collection no extraordinary events occurred.
The structure of the questionnaire consisted of three major sections. The first section included measures related to intrinsic and extrinsic religiosity and materialism. The second section concerned ECCB and vegan purchasing intentions. The third section was devoted to socio-demographic profiling.
Table 1 summarizes socio-demographic profile of respondents.

TABLE 1 ABOUT HERE

Measures and reliability assessment
Responses to questionnaires were collected using 7-point Likert scales. All constructs measurements were already validated by existing research.
The choice of operational measures reflected those instruments considered as the most valid in literature. For instance, Allport & Ross' (1967) model of religiosity is widely recognized as relevant in studies concerning religious orientation (e.g., Paloutzian, 2016; Minton et al., 2016)). A similar rationale justifies the choice of adopting Roberts' (1999) ECCB scale (Groening et al., 2018), as well as for the adoption of the materialism scale (Richins & Dawson, 1992; Richins and Chaplin, 2015).
Specifically, Intrinsic and Extrinsic Religiosity were measured using the Allport and Ross (1967) scale; ECCB was operationalized using the scale by Roberts (1999). Materialism was operationalized using an adapted version of Richins and Dawson's (1992) scale. Finally, purchasing intentions regarding vegan products were measured using modified versions of the scale employed by Chan (2001).
Measurement reliability was checked using a confirmatory factor model with 5 constructs (70% of variance explained, each indicator's loading $\geq .45$; Cronbach alphas $\geq .71$). Such results suggested a good validity for the measurement model (Hair et al., 2010).
Computation of average variance extracted (AVE, table 2) allowed to check for convergent validity. For all the constructs AVE were above the suggested threshold of .50 (Fornell and Larcker, 1981), suggesting good convergent validity. To evaluate measurement reliability, Chronbach's Alpha and composite reliability (CR) statistics were computed. Chronbach's Alpha were all above .71; CR values were all above .70 (Table 2), suggesting good measurement validity and reliability (Hair et al, 2010).

TABLE 2 ABOUT HERE

Structural Model and Hypotheses Test
The SEM analysis was conducted using the AMOS 18 program, and returned fit statistics suggesting an acceptable fit of the model (CMIN/DF= 3.2, NFI, CFI = .931, RMSEA = .06, Byrne, 2001). Table 3 reports the estimates for the full model.

TABLE 3 ABOUT HERE

Evidence supported five throughout six proposed hypotheses. As expected, intrinsic religiosity negatively influences materialism. Intrinsic Religiosity, Extrinsic Religiosity, and Materialism are all significant predictors of ECCB, which, in turn, significantly predicts purchasing intentions regarding vegan products. Materialism negatively impacts on ECCB. Hypothesis 2 does not find empirical confirmation, as extrinsic religiosity exerts a positive influence on materialism.

Mediation Analysis

Multiple mediation procedures have been performed using the PROCESS macro (Hayes, 2013), to assess direct and indirect effects in the proposed model. Multiple (serial mediation) was performed (model 6, Hayes, 2013). All mediation effects were performed on 5,000 bootstrap samples.

Mediation analysis showed that the 95% CIs of all tested indirect effects were not including zero, thus suggesting significance of all tested indirect effects (Table 5).

Multigroup Analysis for Religious Faith

Throughout all sample selection procedure, two different religious faiths were included, with the aim to compare differences between two different religious doctrines approaching differently environmental issues: Buddhism and Christianism.

It has been suggested that the relationship between religiosity and materialism is likely to vary according to different religious affiliations. Yet Max Weber (1905) suggested that some religious faiths, like Calvinism, considered material wealth and success as indicators of religious faith and material success as a sign of God's favor. Other religious faiths, like Buddhism, explicitly discourage possession of and attachment to material objects, which are seen as obstacles towards accomplishing enlightment (Minton et al., 2016). In other religious traditions (like Christianism) materialism is not so emphasized as preventing individuals from developing their spiritual dimension (Minton et al., 2016).

As in the case of materialism, the relationship between sustainable choices and individual religiosity might vary according to different religious faiths. For instance, some religions, like Judaism and Christianism provide religious prescriptions considering an overall dominance of humans over nature (Minton et al., 2016). Some have suggested that, traditionally, Christianism have -somehow indirectly- suggested that resources surrounding human beings were created by God to help humans developing and accomplishing their goals (White, 1967). In this sense, exploitation of nature is likely to be justified by the superior condition of human beings among other natural forms of life.

Other faiths, like Buddhism and Hinduism tend to follow a pantheistic view, considering the existence of God in all natural elements. Accordingly, for the faithful of these religions, damaging and/or destroying any natural element would be seen as damaging/destroying a part of God (Minton et al., 2016). In this sense, it is reasonable to expect consumers following these doctrines to be more sustainable than others.

The sample was hence split according to respondents' religious faith. Food choices (particularly, the choice of being vegan and/or vegetarian) are likely to vary according to different ages (Robinson-O'Brien et al., 2009), and gender (Thomas, 2016). Hence, a preliminary Analysis of Variance (ANOVA) was performed to establish whether vegan purchasing intentions varied according to age and gender. No significant differences emerged; thus, in order to maintain parsimony, such variables were not included in the model as controls. The two sub-samples were designed to ensure a comparable sample size ($n_{Christians} = 433$; $n_{Buddhists} = 409$).

No support emerged regarding invariance when testing the structural model between groups ($p(\Delta\chi^2) < .01$), thus suggesting that the path estimates change according to consumers' religious faith.

Table 4 reports estimates for the two groups.

TABLE 4 ABOUT HERE

The negative impact of intrinsic religiosity on materialism is stronger for Buddhists (-.257) than for Christians (-.121). Extrinsic religiosity positively impacts individual materialism both in Christians and Buddhists (thus not supporting Hypothesis 2 in both groups). For Christians, extrinsic religiosity, intrinsic religiosity, and materialism are all significant determinants of ECCB, whereas for Buddhists the only significant determinant of ECCB is intrinsic religiosity. Finally, ECCB positively impacts purchasing intentions related to vegan products in both Christians and Buddhists.

3. Discussion of findings

Regardless of religious faith, Intrinsic Religiosity has a negative impact on the individual level of materialism. As a dimension focused on "living" religion, intrinsic religiosity tends to be mostly associated with spiritual goals (Vitell, 2009). According to empirical evidence, for Buddhists rather than for Christians intrinsic religiosity exerts a stronger influence in determining individual level of materialism. Notably, Pace (2012) suggests how a Buddhist core element, the ethical doctrine of the Four Immeasurables (i.e., compassion, loving kindness, empathetic joy, equanimity) can greatly determine individual materialistic tendencies.

In this study, the negative relationship between extrinsic religiosity and materialism is not empirically supported. Rather, there is a positive relation both regarding Christians and Buddhists. As extrinsic religiosity is mostly directed towards the accomplishment of personal goals, not necessarily spiritual, extrinsically religious individuals could be even motivated by nonspiritual goals like social recognition, success, and/or acceptance (Vitell et al., 2005). In this sense, antithetical positions to religion might even be supported by extrinsically-oriented religious individuals.

Christianism is one of the most diffused and rooted religions in Europe (Pew Forum, 2012). In this sense, individual embracement of Christian religious beliefs might be determined by the action of external influences (namely, the influence of family members, traditionally embracing Christian values). Extrinsically religious individuals, due to their external (less inner and spiritual) orientation might be more prone to acculturation processes related to global consumer culture, which also affect religious individuals (e.g., see Cleveland, Laroche and Hallab, 2013), and are likely to include materialistic values. Moreover, some have suggested an inner, material dimension of Christianity, at least for those objects testifying and celebrating one's adherence to a religious faith (McDannell, 1998).

Turning to findings related to Buddhists, in the last decades the Buddhist philosophy has diffused from its originating contexts (e.g., Asian countries), to Western contexts, primarily throughout the action of popular culture, which contributed to the diffusion and awareness of such religion. In this sense, extrinsic approaches to Buddhism might be as relevant as in the case of Christians. Moreover, some have introduced the concept of spiritual materialism (Trungpa, 1973), which denotes an individual spiritual use of consumer material things. Individuals denoted by spiritual materialism are likely to consider spiritual matters in the same way of consumption choices (Rindfleish, 2005); accordingly, for them spiritual doctrines are selected in the same way goods and services are selected. This point might suggest that an extrinsic dimension of religiosity is likely to exist regardless of religious faith, and why it might be related to individual materialism.

On the one hand, ECCB is determined in Christians by Intrinsic Religiosity, Extrinsic Religiosity, and Materialism; on the other hand, ECCB of Buddhists is only determined by Intrinsic Religiosity.

Regarding Christians, the positive impact of intrinsic religiosity on ECCB is confirmed by most extant empirical results (see Hirsh and Dolderman, 2007). Extrinsically oriented religious individuals might embrace environmentally friendly attitudes and orientations as they perceive such behaviors to be socially desirable and accepted (Vitell et al, 2007). The negative impact of materialistic tendencies on ECCB appears in line with most existing empirical evidence as well (e.g., Kilbourne and Pickett,

2008), also regarding the relationship between materialism and consumer ethical beliefs and behaviors (Chowdhury and Fernando, 2013).
Regarding Buddhists, the proposed model isolates only one significant determinant of ECCB: intrinsic religiosity. This remarkable difference between Christians and Buddhists could be explained by the inner characteristics of religious faiths. Christianism does not generally provide univocal, restrictive prescriptions concerning respect for the environment. Some studies have even postulated that, traditionally, Christianism does not provide an environmentally conscious general orientation (the Earth created by God for the development of human beings, that must be exploited for that, see Arbuckle and Konisky, 2015); others have noted how, recently, Christians increasingly feel the need to preserve the environment, following a stewardship perspective encouraging responsible resource management (Wilkinson, 2012). Finally, evidence has suggested that, generally, Christians show weaker links between religiosity and ethical consumption predispositions with respect to other religions (Schneider et al., 2011).
Oppositely, Buddhism explicitly encourages a gentle, inclusive approach to nature and environment, minimizing individual presence and impact on the environment. Such view results from the concept of interdependence of all things of which Buddhism is permeated (Cooper and James, 2017). This might justify results regarding intrinsic religiosity and ECCB: the religious approach to the environment is more determined by the doctrine itself, leaving less room for ambiguities and for the intervention of external factors (e.g., social, contextual, and cultural).
Finally, regardless of religious faith, ECCB turned out to be a significant determinant of consumer purchasing intentions towards vegan products. Such point recalls the problem of identifying the major factors bringing consumer environmental predispositions into actual purchasing intentions (and behavior). According to literature, consumer environmental predisposition leads to actual intentions to purchase/behave only if the trade-off between environmental relevance related to purchases (e.g., preservation of resources, improvement of animal welfare) and individual consequences of specific purchases (e.g., trade-off in terms of product quality) is *actually* understood by consumers. The strong (almost extreme, see Larsson *et al.*, 2003) commitment of vegans suggests such trade off to be understood and quite accepted, directly transferring environmental predispositions to actual intentions.

4. Implications, limitations, and directions for further research

Empirical evidence suggests that the impact of religiosity on consumer environmental predispositions and purchasing intentions is likely to be a complex domain, as religiosity itself is to be influenced by many factors, and because different religions are likely to impact differently on environmental predispositions and intentions (Schneider et al., 2011). Given the substantial lack of consumer/marketing grounded theoretical frameworks and evidence, results of this study require further validation to derive more robust generalizations.
However, some managerial reflections could be proposed as well.
A first point regards understanding the extent to which consumer religious influxes are not determined by inner (individual) sources, but by external sources. Extrinsic religiosity is a case in point, as it is likely to be determined by influences surrounding consumers (e.g., social influences). Note that such influences are likely to change according to different religions. This might be of interest for those practitioners addressing specific market segments in which religious influences should be carefully considered (e.g., vegetarian and vegan food). In this sense, marketers should be aware that religious influences might be conceived, for instance, as status-related (i.e., religion as a mean to accomplish social goals); such influences might be addressed at best devising marketing strategies in a similar fashion with respect to what is done for other kinds of highly symbolic consumption.
A second point concerns the actual role of religious prescriptions in determining consumer environmental approaches.

Some religions provide explicit prescriptions, strictly regulating everyday life. Some of them impose specific constraints in terms of consumption choices (e.g., Islamic *halal* prescriptions).
Evidence provided in this study suggests considering more in deep the actual role of explicit prescriptions, especially in comparison with broader orientations -less prescriptive- in determining consumer environmental orientations. In this study, this point is raised looking at the effect of Intrinsic Religiosity as the only determinant of ECCB for Buddhists.
Buddhism is generally not regulated by imposing, dogmatic rules. However, concerning environmental issues, it fosters a view explicitly supporting environmentally sensible approaches and behaviors. Other religions -like Christianism- do traditionally not provide environmental explicit orientations. Results of this study suggest how these general orientations -not prescriptive- are likely to exert major effects on consumer environmental predispositions, leading in turn to actual purchasing intentions, that might be as strong -or even stronger- than explicit prescriptions.
Further research and evidence should be provided on this point. From an academic perspective, this might expand the debate on religious influences on consumption, and on determinants of consumer environmental predispositions and actual behaviors. From a practitioner perspective, understanding the power of implicit and explicit prescriptions might be relevant for marketers either from a market power viewpoint (successfully dealing with those market segments concerning consumer environmental sensitivity), as well as from a wider viewpoint concerning a sustained competitive advantage, for instance in terms of mental repositioning of company identity; the more implicit and intrinsic religious influxes, the more consumers are likely to consider not just the ethical appearance of products, but also company conduct (Schneider et al., 2011). It should be clear that such dynamics might vary not only according to different religions, but such variations could be present within single markets (even mature markets).
Following extant research on the topic, evidence suggests that, environmental consumer purchasing intentions might underlie an actual knowledge of consumers of the environmental value of certain consumption decisions. This might hold at least for those kinds of consumption entailing a major consumer commitment -like veganism. This suggests marketers should ensure the development of offerings succeeding in addressing such deep commitment, providing for instance tools to make consumers appreciate companies' commitment towards specific causes, as well as effectively communicating the value of their offering (e.g., animal welfare, vegan philosophy and lifestyles).
Finally, as far as for many vegans nutritional choices focus on taking care of the Earth's resources and environment, and ethical issues about animal care, results of this paper confirm that religions can play a determinant role in the diffusion of ethical consumption, and, specifically, ecological consumption behavior; empirical findings support the point that religions can provide a relevant influence to a general societal shift towards "more environmentally benign and sustainable directions" (Harper, 2008), as, for instance, they can imbue such shift with specific meanings and moral significance (Harper, 2008).
There are a number of limitations in this study, which, however, could be seen as additional directions for future research.
First, the study only included Christianity and Buddhism. Other religions should be examined with respect to the same relationships, to increase generalizability of results.
Second, the sample might not be considered as representative of the Italian population, as it is biased towards relatively older consumers.
However, a balanced distribution across the main sociodemographic characteristics was aimed at by distributing the questionnaire to different groups of individuals actively involved in their religious communities.
Third, the study has been set only in a single, Western country (Italy). Traditionally a Christian nation, such religious orientation of Italy might have affected diffusion of Buddhism (e.g., restriction of knowledge, or social/cultural exchange among participants). Further research could identify measures and constructs assessing the potential effects of this bias. As in many comparative studies, the present work might have not considered the effect of other variables (e.g., age, gender, other personal

characteristics). Insights of this study might be hence further expanded by considering moderating effects on the hypothesized relationships, examining, for example, the actual impact of religious communities on individual systems of beliefs and consumer orientation.

References

Akehurst G, Afonso C and Martins Gonçalves H (2012) Re-examining green purchase behaviour and the green consumer profile: new evidences. *Management Decision* 50(5): 972–988. DOI: 10.1108/00251741211227726.

Allport GW and Ross JM (1967) Personal religious orientation and prejudice. *Journal of Personality and Social Psychology* 5(4): 432–443. DOI: 10.1037/h0021212.

Arbuckle MB and Konisky DM (2015) The role of religion in environmental attitudes. *Social Science Quarterly* 96(5): 1244–1263.

Arslan M (2000) A cross-cultural comparison of British and Turkish managers in terms of Protestant work ethic characteristics. *Business Ethics: A European Review* 9(1): 13–19. DOI: 10.1111/1467-8608.00165.

Bakar A, Lee R and Rungie C (2013) The effects of religious symbols in product packaging on Muslim consumer responses. *Australasian Marketing Journal (AMJ)* 21(3): 198–204.

Belk RW (1985) Materialism: Trait Aspects of Living in the Material World. *Journal of Consumer Research* 12(3). The University of Chicago Press: 265. DOI: 10.1086/208515.

Belk RW, Ger G and Askegaard S (2003) The Fire of Desire: A Multisited Inquiry into Consumer Passion. *Journal of Consumer Research* 30(3): 326–351. DOI: 10.1086/378613.

Bryman A (2008) *Social Research Methods*. Oxford University Press.

Burroughs JE and Rindfleisch A (2002) Materialism and Well-Being: A Conflicting Values Perspective. *Journal of Consumer Research* 29(3): 348–370. DOI: 10.1086/344429.

Byrne BM (2001) *Structural Equation Modeling with AMOS*. Routledge. DOI: 10.4324/9781410600219.

Chan K (1999) Market Segmentation of Green Consumer in Hong Kong. *Journal of International Consumer Marketing* 12(2): 7–24. DOI: 10.1300/J046v12n02.

Chang C and Chen Y (2013) Green organizational identity and green innovation. *Management Decision* 51(5): 1056–1070. DOI: 10.1108/MD-09-2011-0314.

Chen Y and Chang C (2012) Enhance green purchase intentions - The roles of green perceived value, green perceived risk, and green trust. *Management Decision* 50(3): 502–520. DOI: 10.1108/00251741211216250.

Chowdhury RMMI (2016) Religiosity and Voluntary Simplicity: The Mediating Role of Spiritual Well-Being. *Journal of Business Ethics*: 1–26. DOI: 10.1007/s10551-016-3305-5.

Chowdhury RMMI and Fernando M (2013) The Role of Spiritual Well-Being and Materialism in Determining Consumers' Ethical Beliefs: An Empirical Study with Australian Consumers. *Journal of Business Ethics* 113(1): 61–79. DOI: 10.1007/s10551-012-1282-x.

Clark JW and Dawson LE (1996) Personal religiousness and ethical judgements: An empirical analysis. *Journal of Business Ethics* 15(3): 359–372. DOI: 10.1007/BF00382959.

Cleveland M and Chang W (2009) Migration and materialism: The roles of ethnic identity, religiosity, and generation. *Journal of Business Research* 62(10): 963–971. DOI: 10.1016/j.jbusres.2008.05.022.

Cleveland M, Laroche M and Hallab R (2013) Globalization, culture, religion, and values: Comparing consumption patterns of Lebanese Muslims and Christians. *Journal of Business Research* 66(8): 958–967.

Cooper DE and James SP (2017) *Buddhism, virtue and environment*. Routledge.

Culliton JW (1949) Business and religion. *Harvard Business Review* 27(3): 265–271.

Davari A, Iyer P and Strutton D (2017) Investigating Moral Links Between Religiosity, Altruism, and Green Consumption. *Journal of Nonprofit and Public Sector Marketing* 29(4): 385–414.

DOI: 10.1080/10495142.2017.1326338.
Dietz T, Frisch AS, Kalof L, et al. (1995) Values and Vegetarianism: An Exploratory Analysis. *Rural Sociology* 60(3): 533–542. DOI: 10.1111/j.1549-0831.1995.tb00589.x.
Dietz T, Stern PC and Guagnano GA (1998) Social Structural and Social Psychological Bases of Environmental Concern. *Environment and Behavior* 30(4): 450–471. DOI: 10.1177/001391659803000402.
Eckberg DL and Blocker TJ (1996) Christianity, Environmentalism, and the Theoretical Problem of Fundamentalism. *Journal for the Scientific Study of Religion* 35(4): 343–355. DOI: 10.2307/1386410.
Essoo N and Dibb S (2004) Religious Influences on Shopping Behaviour: An Exploratory Study. *Journal of Marketing Management* 20(7–8): 683–712. DOI: 10.1362/0267257041838728.
Fornell C and Larcker DF (1981) Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research* 18(1): 39. DOI: 10.2307/3151312.
Fox N and Ward K (2008a) Health, ethics and environment: A qualitative study of vegetarian motivations. *Appetite* 50(2–3): 422–429. DOI: 10.1016/j.appet.2007.09.007.
Fox N and Ward K (2008b) Health, Ethics and Environment: a Qualitative Study of Vegetarian Motivations. *Appetite* 50(2): 422–429.
Gardyn R (2003) Eco-friend or foe? *American Demographics* 25(8): 12.
Graafland J (2017) Religiosity, Attitude, and the Demand for Socially Responsible Products. *Journal of Business Ethics* 144(1): 121–138. DOI: 10.1007/s10551-015-2796-9.
Groening C, Sarkis J and Zhu Q (2018) Green marketing consumer-level theory review: A compendium of applied theories and further research directions. *Journal of Cleaner Production* 172: 1848–1866. DOI: 10.1016/j.jclepro.2017.12.002.
Grouzet FME, Kasser T, Ahuvia A, et al. (2005) The Structure of Goal Contents Across 15 Cultures. *Journal of Personality and Social Psychology* 89(5): 800–816. DOI: 10.1037/0022-3514.89.5.800.
Habito RLF (2007) Environment or earth sangha: Buddhist perspectives on our global ecological well-being. *Contemporary Buddhism* 8(2): 131–147. DOI: 10.1080/14639940701636117.
Hair JF, Black WC, Babin BJ, et al. (2010) *Multivariate data analysis*. 7th ed. Upper Saddle River: Prentice Hall.
Harper CL (2008) Religion and Environmentalism. *Journal of Religion & Society* 3: 5–26. DOI: 10.1002/9781118279519.ch27.
Hayes AF (2013) *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
Heiman A, Gordon B and Zilberman D (2017) Food beliefs and food supply chains: The impact of religion and religiosity in Israel. *Food Policy* (January): 0–1. DOI: 10.1016/j.foodpol.2017.07.007.
Hirsh JB and Dolderman D (2007) Personality predictors of Consumerism and Environmentalism: A preliminary study. *Personality and Individual Differences* 43(6): 1583–1593. DOI: 10.1016/j.paid.2007.04.015.
Hoffman SR, Stallings SF, Bessinger RC, et al. (2013) Differences between health and ethical vegetarians. Strength of conviction, nutrition knowledge, dietary restriction, and duration of adherence. *Appetite* 65: 139–144. DOI: 10.1016/j.appet.2013.02.009.
Homer PM and Kahle LR (1988) A structural equation test of the value-attitude-behavior hierarchy. *Journal of Personality and social Psychology* 54(4): 638–646.
Hurst M, Dittmar H, Bond R, et al. (2013) The relationship between materialistic values and environmental attitudes and behaviors: A meta-analysis. *Journal of Environmental Psychology* 36: 257–269. DOI: 10.1016/j.jenvp.2013.09.003.
Janda S and Trocchia PJ (2001) Vegetarianism: Toward a greater understanding. *Psychology and Marketing* 18(12): 1205–1240. DOI: 10.1002/mar.1050.

Janssen M, Busch C, Rödiger M, et al. (2016) Motives of consumers following a vegan diet and their attitudes towards animal agriculture. *Appetite* 105: 643–651. DOI: 10.1016/j.appet.2016.06.039.
Jenkins W (2009) Religion and Ecology: A Review Essay on the Field. *Journal of the American Academy of Religion* 77(1): 187–197. DOI: 10.1093/jaarel/lfp004.
Jenkins W and Key Chapple C (2011) *Religion and the Environment*. *Annual Review of Environment and Resources*. London.
Kalafatis SP, Pollard M, East R, et al. (1999) Green marketing and Ajzen's theory of planned behaviour: a cross-market examination. *Journal of Consumer Marketing* 16(5): 441–460. DOI: 10.1108/07363769910289550.
Kalof L, Dietz T, Stern PC, et al. (1999) Social Psychological and Structural Influences on Vegetarian Beliefs. *Rural Sociology* 64(3): 500–511. DOI: 10.1111/j.1549-0831.1999.tb00364.x.
Kanagy CL and Willits FK (1993) A 'greening' of religion? Some evidence from a Pennsylvania sample. *Social Science Quarterly* 74(3): 674–683.
Kilbourne W and Pickett G (2008) How materialism affects environmental beliefs, concern, and environmentally responsible behavior. *Journal of Business Research* 61(9): 885–893.
Kilbourne WE and LaForge MC (2010) Materialism and its relationship to individual values. *Psychology & Marketing* 27(8): 780–798.
King JE and Crowther MR (2004) The measurement of religiosity and spirituality: Examples and issues from psychology. *Journal of Organizational Change Management* 17(1): 83–101.
Kleine SS and Hubbert AR (1993) How Do Consumers Acquire a New Food Consumption System When It Is Vegetarian? *Advances in Consumer Research* 20: 196–201.
Konuk FA, Rahman SU and Salo J (2015) Antecedents of green behavioral intentions: A cross-country study of Turkey, Finland and Pakistan. *International Journal of Consumer Studies* 39(6): 586–596. DOI: 10.1111/ijcs.12209.
Krause D (1993) Environmental consciousness: An empirical study. *Environment and Behavior* 25(1): 126–142.
Larsson CL, Rönnlund U, Johansson G, et al. (2003) Veganism as status passage: The process of becoming a vegan among youths in Sweden. *Appetite* 41(1): 61–67. DOI: 10.1016/S0195-6663(03)00045-X.
Lea E and Worsley A (2001) Influences on meat consumption in Australia. *Appetite* 36(2): 127–136. DOI: 10.1006/appe.2000.0386.
Lindridge A (2005) Religiosity and the construction of a cultural-consumption identity. *Journal of Consumer Marketing* 22(3): 142–151. DOI: 10.1108/07363760510595968.
Lockie S, Lyons K, Lawrence G, et al. (2002) Eating'green': motivations behind organic food consumption in Australia. *Sociologia Ruralis* 42(1): 23–40.
Lu ACC, Gursoy D and Del Chiappa G (2016) The Influence of Materialism on Ecotourism Attitudes and Behaviors. *Journal of Travel Research* 55(2): 176–189. DOI: 10.1177/0047287514541005.
Maio GR, Pakizeh A, Cheung W-Y, et al. (2009) Changing, priming, and acting on values: Effects via motivational relations in a circular model. *Journal of Personality and Social Psychology* 97(4): 699–715. DOI: 10.1037/a0016420.
McDaniel SW and Burnett JJ (1990) Consumer Religiosity and Retail Store Evaluation Criteria. *Journal of the Academy of Marketing Science* 18(2): 101–112.
McDannell C (1998) *Material Christianity: Religion and popular culture in America*. Yale University Press.
McDonald S and Oates CJ (2006) Susteinability: Consumer perceptions and marketing strategies. *Business Strategy and the Environment* 15(3): 157–170. DOI: 10.1002/bse.524.
McIntosh A (1991) The impact of environmental-issues on marketing and politics in the 1990s. *Journal of the Market Research Society* 33(3): 205–217.

Mick DG (1996) Are Studies of Dark Side Variables Confounded by Socially Desirable Responding? The Case of Materialism. *Journal of Consumer Research* 23(2): 106. DOI: 10.1086/209470.
Minton EA and Kahle LR (2014) *Belief systems, religion, and behavioral economics : marketing in multicultural environments*. Business Expert Press.
Minton EA, Kahle LR, Jiuan TS, et al. (2016) Addressing Criticisms of Global Religion Research: A Consumption-Based Exploration of Status and Materialism, Sustainability, and Volunteering Behavior. *Journal for the Scientific Study of Religion* 55(2): 365–383. DOI: 10.1111/jssr.12260.
Mohd Suki Norazah and Mohd Suki Norbayah (2015) Does religion influence consumers' green food consumption? Some insights from Malaysia. *Journal of Consumer Marketing* 32(7): 551–563. DOI: 10.1108/JCM-02-2014-0877.
Mukhtar A and Mohsin Butt M (2012) Intention to choose Halal products: the role of religiosity. *Journal of Islamic Marketing* 3(2): 108–120.
Nielsen JS (2011) Use of the Internet for willingness-to-pay surveys. A comparison of face-to-face and web-based interviews. *Resource and Energy Economics* 33(1): 119–129. DOI: 10.1016/j.reseneeco.2010.01.006.
Pace S (2013) Does Religion Affect the Materialism of Consumers? An Empirical Investigation of Buddhist Ethics and the Resistance of the Self. *Journal of Business Ethics* 112(1): 25–46. DOI: 10.1007/s10551-012-1228-3.
Paloutzian RF (2016) *Invitation to the psychology of religion*. Guilford Publications.
Patwardhan AM, Keith ME and Vitell SJ (2012) Religiosity, Attitude Toward Business, and Ethical Beliefs: Hispanic Consumers in the United States. *Journal of Business Ethics* 110(1): 61–70. DOI: 10.1007/s10551-011-1147-8.
Pepper M, Jackson T and Uzzell D (2011) An Examination of Christianity and Socially Conscious and Frugal Consumer Behaviors. *Environment and Behavior* 43(2): 274–290. DOI: 10.1177/0013916510361573.
Podsakoff PM, MacKenzie SB, Lee JY, et al. (2003) Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology* 88(5): 879–903. DOI: 10.1037/0021-9010.88.5.879.
Povey R, Wellens B and Conner M (2001) Attitudes towards following meat, vegetarian and vegan diets: an examination of the role of ambivalence. *Appetite* 37(1): 15–26. DOI: 10.1006/appe.2001.0406.
Presser S and Stinson L (1998) Data Collection Mode and Social Desirability Bias in Self-Reported Religious Attendance. *American Sociological Review* 63(1): 137–145.
Radnitz C, Beezhold B and DiMatteo J (2015) Investigation of lifestyle choices of individuals following a vegan diet for health and ethical reasons. *Appetite* 90: 31–36. DOI: 10.1016/j.appet.2015.02.026.
Rahman M, Albaity M and Maruf B (2017) The Role of Religiosity on the Relationship Between Materialism and Fashion Clothing Consumption Among Malaysian Generation Y Consumers. *Social Indicators Research* 132(2): 757–783. DOI: 10.1007/s11205-016-1310-9.
Rakrachakarn V, Moschis GP, Ong FS, et al. (2013) Materialism and Life Satisfaction: The Role of Religion. *Journal of Religion and Health* 54(2): 413–426. DOI: 10.1007/s10943-013-9794-y.
Richins ML and Chaplin LN (2015) Material Parenting: How the Use of Goods in Parenting Fosters Materialism in the Next Generation. *Journal of Consumer Research* 41(6). University of Chicago Press Chicago, IL: 1333–1357. DOI: 10.1086/680087.
Richins ML and Dawson S (1992) A Consumer Values Orientation for Materialism and Its Measurement: Scale Development and Validation. *Journal of Consumer Research* 19(3): 303. DOI: 10.1086/209304.
Rindfleisch A, Burroughs JE and Wong N (2009) The Safety of Objects: Materialism, Existential Insecurity, and Brand Connection. *Journal of Consumer Research* 36(1): 1–16. DOI:

10.1086/595718.
Rindfleish J (2005) Consuming the Self: New Age Spirituality as “Social Product” in Consumer Society. *Consumption Markets & Culture* 8(4): 343–360. DOI: 10.1080/10253860500241930.
Roberts JA (1996) Green consumers in the 1990s: Profile and implications for advertising. *Journal of Business Research* 36(3): 217–231. DOI: 10.1016/0148-2963(95)00150-6.
Robinson-O’Brien R, Perry CL, Wall MM, et al. (2009) Adolescent and Young Adult Vegetarianism: Better Dietary Intake and Weight Outcomes but Increased Risk of Disordered Eating Behaviors. *Journal of the American Dietetic Association* 109(4). American Dietetic Association: 648–655. DOI: 10.1016/j.jada.2008.12.014.
Ruby MB (2012) Vegetarianism. A blossoming field of study. *Appetite* 58(1): 141–150. DOI: 10.1016/j.appet.2011.09.019.
Schlegelmilch BB, Bohlen GM and Diamantopoulos A (1996) The link between green purchasing decisions and measures of environmental consciousness. *European Journal of Marketing* 30(5): 35–55. DOI: 10.1108/03090569610118740.
Schneider H, Krieger J and Bayraktar A (2011) The Impact of Intrinsic Religiosity on Consumers’ Ethical Beliefs: Does It Depend on the Type of Religion? A Comparison of Christian and Moslem Consumers in Germany and Turkey. *Journal of Business Ethics* 102(2): 319–332. DOI: 10.1007/s10551-011-0816-y.
Sherkat DE and Ellison CG (2007) Structuring the Religion-Environment Connection: Identifying Religious Influences on Environmental Concern and Activism. *Journal for the Scientific Study of Religion* 46(1): 71–85.
Sirgy JM (1998) Materialism and Quality of Life. *Social Indicators Research* 42(3): 227–260. DOI: 10.3109/02770903.2010.492540.Knowledge.
Statista (2015) Vegan Market - Statistics and Facts. Available at: https://www.statista.com/topics/3377/vegan-market/ (accessed 26 November 2017).
Straughan RD and Roberts JA (1999) Environmental segmentation alternatives: a look at green consumer behavior in the new millennium. *Journal of Consumer Marketing* 16(6): 558–575. DOI: 10.1108/07363769910297506.
Swinyard W, Kau A and Phua H (2001) Happiness, materialism, and religious experience in the US and Singapore. *Journal of Happiness Studies* 2(2): 13–32. DOI: 10.1023/a:1011596515474.
Tan MM, Chan CKY and Reidpath DD (2016) Religiosity, dietary habit, intake of fruit and vegetable, and vegetarian status among Seventh-Day Adventists in West Malaysia. *Journal of Behavioral Medicine* 39(4): 675–686. DOI: 10.1007/s10865-016-9736-8.
Thomas MA (2016) Are vegans the same as vegetarians? The effect of diet on perceptions of masculinity. *Appetite* 97. Elsevier Ltd: 79–86. DOI: 10.1016/j.appet.2015.11.021.
Tilikidou I and Delistavrou A (2004) the Influence of the Materialistic Values on Consumers’ Pro-Environmental Post-Purchase Behavior. In: *American Marketing Association Winter Educators*, 2004, pp. 42–49.
Tourangeau R and Smith TW (1996) Asking Sensitive Questions: The Impact of Data Collection Mode, Question Format, and Question Context. *Public Opinion Quarterly* 60(2): 275. DOI: 10.1086/297751.
Trungpa C (1973) *Cutting Through Spiritual Materialism*. Berkeley: Shambala.
Vitell SJ, Paolillo JGP and Singh JJ (2005) Religiosity and consumer ethics. *Journal of Business Ethics* 57(2): 175–181. DOI: 10.1007/s10551-004-4603-x.
Vitell SJ, Paolillo JGP and Singh JJ (2006) The role of money and religiosity in determining consumers’ ethical beliefs. *Journal of Business Ethics* 64(2): 117–124. DOI: 10.1007/s10551-005-1901-x.
Vitell SJ, Singh JJ and Paolillo JGP (2007) Consumers’ ethical beliefs: The roles of money, religiosity and attitude toward business. *Journal of Business Ethics* 73(4): 369–379. DOI: 10.1007/s10551-006-9212-4.
Weaver GR and Agle BR (2002) Religiosity and ethical behavior in organizations: a symbol

interactionist perspective. *Academy of Management Review* 27(1): 77–97. DOI: 10.5465/AMR.2002.5922390.
Weber M (1905) *The Protestant ethic and the spirit of capitalism*.
Weisberg H, Krosnick JA and Bowen BD (1996) *An introduction to survey research, polling, and data analysis*. Sage.
White L (1967) The historical roots of our ecologic crisis. *Science* 155(3767): 1203–1207. DOI: 10.1126/science.155.3767.1203.
Wilkes RE, Burnett JJ and Howell RD (1986) On the meaning and measurement of religiosity in consumer research. *Journal of the Academy of Marketing Science* 14(1): 47–56. DOI: 10.1007/BF02722112.
Wilkinson KK (2012) *Between God and Green: How Evangelicals Are Cultivating a Middle Ground on Climate Change*. Oxford University Press. DOI: 10.1093/acprof:oso/9780199895885.001.0001.
Wolkomir M, Futreal M, Woodrum E, et al. (1997) Substantive Religious Belief and Environmentalism. *Social Science Quarterly* 78(1): 96–108.
Wong N, Rindfleisch A and Burroughs JE (2003) Do Reverse-Worded Items Confound Measures in Cross-Cultural Consumer Research? The Case of the Material Values Scale. *Journal of Consumer Research* 30(1): 72–91. DOI: 10.1086/374697.
Yin, J., Qian, L., & Singhapakdi, A. (2018). Sharing sustainability: How values and ethics matter in consumers' adoption of public bicycle-sharing scheme. *Journal of Business Ethics*, 149(2), 313–332.
Zamani-Farahani H and Musa G (2012) The relationship between Islamic religiosity and residents' perceptions of socio-cultural impacts of tourism in Iran: Case studies of Sare'in and Masooleh. *Tourism Management* 33(4): 802–814. DOI: 10.1016/j.tourman.2011.09.003.
Zimmer H (1993) Buddhahood. In: Eastman R (ed.) *The ways of religion*. 2nd ed. New York: Oxford University Press, pp. 65–73.

Table 1

		Frequency	Percent
Gender	Male	424	50.4%
	Female	418	49.6%
Total		*842*	*100.0*
Age	Between 19 and 29 years old	100	12%
	Between 30 and 39 years old	135	16%
	Between 40 and 49 years old	200	24%
	Between 50 and 65 years old	277	33%
	Over 65 years old	130	15%
Total		*842*	*100.0*
Occupation	Worker	129	15.3%
	Employee	146	17.3%
	Manager/executive	81	9.6%
	Shopkeeper	36	4.3%
	Teacher/Lecturer	78	9.3%
	Student	58	6.9%
	Housewife	63	7.5%
	Self-employed	125	14.8%
	Retired	100	11.9%
	Unemployed	26	3.1%
Total		*842*	*100.0*

Table 2

Construct	**Items**	**Loadings**	**α**	**AVE**	**CR**
Intrinsic Religiosity (Adapted from Allport & Ross, 1967)	My whole approach to life based on religion	.940	.952	.67	.89
	Religion answers many questions about the meaning of life	.946			
	I live my life according to religious beliefs	.940			
	I feel a strong sense of God‟s presence	.935			
	I enjoy reading about my religion	.825			
Extrinsic Religiosity (Adapted from Allport & Ross, 1967)	I believe in religion, but other things more important in life	.638	.825	.84	.96
	I pray because have been taught to pray	.874			
	I attend religious services to enjoy seeing people I know	.900			

	I attend religious services to spend time with friends	.836			
Materialism (Adapted from Richins & Dawson, 1992)	I admire people who own expensive homes, cars and clothes	.785	.907	.62	.93
	Some of the most important achievements in life include acquiring material possessions	.569			
	I don't place much emphasis on the amount of material objects that people own as a sign of success	.811			
	The things I own say a lot about how well I'm doing in life	.752			
	I like to own things that impress people	.815			
	I don't pay much attention to the material objects that other people own	.819			
	Renting or leasing a car is more appealing to me than owning one	.868			
	I get very upset if something is stolen from me, even if it has little monetary value	.839			
ECCB (Adapted from Roberts, 1999)	I always choose products that contribute to reduce pollution	.878	.969	.73	.97
	I try to reduce the amount of electricity I use	.719			
	I understand potential environmental damage some products may cause, and I do not purchase these products	.864			
	I have switched products for ecological reasons	.900			
	I buy environmentally friendly products even if higher priced	.882			

	I have convinced family/friends not to buy products harmful to the environment	.769			
	I purchase certain products because they cause less pollution	.917			
	I buy products packaged in reusable containers	.793			
	I provide a conscious effort to buy products low in pollutants	.932			
	Between two products, I always buy one less harmful to environment	.892			
	I do not buy household products that harm the environment	.887			
	I would buy environmentally friendly products even if prices were higher than non-environmentally friendly ones	.869			
	I look for and buy products which are labelled as made from recycled paper	.800			
Vegan Purchasing Intentions (Adapted from Chan, 2001)	I would buy vegan food	.821	.912	.75	.94
	I would consider purchasing vegan food in the next three months	.861			
	I would consider purchasing vegan food in the next year	.893			
	I would be more satisfied by vegan food rather than nonvegan food	.903			
	I am willing to buy vegan food the future	.845			

Table 3

Hypothesis	**Path**	**Estimate (*SE*)**	**p-value**
H1	*IR → MAT*	*-.224 (.023)*	*.000*
H2	*ER → MAT*	*.191 (.026)*	*.000*
H3	*IR → ECCB*	*.236 (.033)*	*.000*
H4	*ER → ECCB*	*.149 (.037)*	*.000*

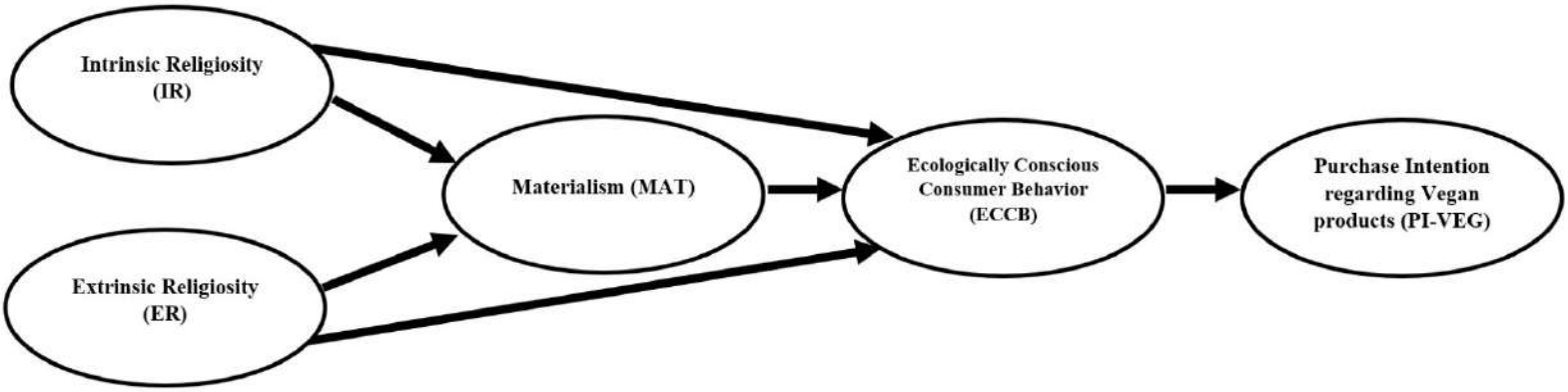
H5	*MAT → ECCB*	*-.259 (.058)*	*.000*
H6	*ECCB → PI-VEG*	*.191 (.032)*	*.000*

Table 4

Path	Group	Estimate (SE)	p-value
IR → MAT	Christians	-.121 (.024)	.000
	Buddhists	-.257 (.046)	.000
ER → MAT	Christians	.098 (.024)	.000
	Buddhists	.167 (.038)	.000
IR → ECCB	Christians	.385 (.053)	.000
	Buddhists	.123 (.055)	.03
ER → ECCB	Christians	.302 (.055)	.000
	Buddhists	.053 (.048)	ns
MAT → ECCB	Christians	-.770 (.149)	.000
	Buddhists	-.094 (.067)	ns
ECCB → PI-VEG	Christians	.233 (.042)	.000
	Buddhists	.115 (.046)	.01

Table 5

			95%-confidence interval	
	Mediators	*Ind*	*LL*	*UL*
Intrinsic Religiosity	Total	.130	.087	.177
	Materialism	.087	.049	.130
	Materialism & ECCB	.008	.003	.017
	ECCB	.035	.016	.060
Extrinsic Religiosity	Total	(-).054	-.085	-.27
	Materialism	(-).069	-.096	-.046
	Materialism & ECCB	(-).005	-.011	-.002
	ECCB	.020	.008	.038


Intrinsic Religiosity (IR)
Extrinsic Religiosity (ER)
Materialism (MAT)
Ecologically Conscious Consumer Behavior (ECCB)
Purchase Intention regarding Vegan products (PI-VEG)